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~~There are no later reports than these~~

~~H. L. Mullen~~

REPORTS

OF THE

VISITING COMMITTEES OF THE BOARD OF OVERSEERS

OF

HARVARD COLLEGE

FOR THE ACADEMIC YEAR, 1911–12

CAMBRIDGE, MASS.
Published by the University
1912

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In Board of Overseers
May 12, 1909.

Voted, — That the Secretary of the Board be directed to print each year, under Section 31 of the Rules and By-Laws of the Board, a sufficient number of volumes, containing the Reports of the Visiting Committees, to supply the members of the Corporation and of the Board of Overseers.

Attest.

Winthrop H. Wade,
Secretary.

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COMMITTEES APPOINTED BY THE BOARD OF OVERSEERS

1911-12

ON ELECTIONS

Theodore Roosevelt,
Henry Cabot Lodge,
George von Lengerke Meyer,
William Rand, Jr.,
Augustus E. Willson.

ON REPORTS AND RESOLUTIONS

Moses Williams,
Robert S. Peabody,
Lawrence E. Sexton,
Robert Grant,
Amory A. Lawrence,
George Wigglesworth,
J. Pierpont Morgan, Jr.

ON UNIVERSITY EXTENSION, INCLUDING THE SUMMER SCHOOL OF ARTS AND SCIENCES AND THE SCHOOL FOR SOCIAL WORKERS

Charles W. Eliot,
William L. Richardson,
Jerome D. Greene,
Henry Cabot Lodge,
Abbot L. Mills,
J. Collins Warren,
George A. Gordon.

ON DEPARTMENTS

To visit the Divinity School

George A. Gordon,
James DeNormandie,
Daniel Merriman,
Francis H. Rowley,
John A. Bellows,
Augustus M. Lord,
Charles L. Noyes.

To visit the Law School

Robert Grant,
James T. Mitchell,
Charles E. Hughes,
Chandler P. Anderson,
William Rand, Jr.,
Louis D. Brandeis,
Joseph B. Warner,
George Putnam,
Francis J. Swayze,
Charles P. Greenough.

To visit the Medical and Dental Schools

George B. Shattuck,
J. Collins Warren,
Charles W. Eliot,
Alexander Cochrane,
William Sturgis Bigelow,
Henry H. Sprague,
Henry Saltonstall Howe,
William Lambert Richardson,
Charles P. Briggs,
James C. White,
Charles H. Tweed.

To visit the Bussey Institution

Carroll Dunham,
Theodore Roosevelt,
Walter C. Baylies,
J. Arthur Beebe,
John Lowell,
Augustin H. Parker,
William H. Ruddick,
Isaac S. Whiting,
Simon Flexner,
Daniel W. Field,
Warren A. Reed.

To visit the Library

J. Pierpont Morgan, Jr.,
W. Bayard Cutting,
Clement W. Andrews,
Charles C. Soule,
T. Jefferson Coolidge, Jr.,
Henry Saltonstall Howe,
Edward D. Brandegee,
Charles K. Bolton,
Francis Shaw,
J. Hays Gardiner,
Alexander Cochrane,
C. Chauncey Stillman.

To visit the Observatory

Joel H. Metcalf,
George I. Alden,
Anna P. Draper (Mrs. Henry Draper),
Edwin Ginn,
George R. Agassiz,
Elihu Thomson,
Erasmus D. Leavitt,
Charles F. Choate, Jr.,
Charles R. Cross.

To visit the Botanic Garden

Nathaniel C. Nash,
Oliver Ames,
Edwin F. Atkins,
Arthur F. Estabrook,
George B. Dorr,
Ernest B. Dane.

To visit the Gray Herbarium

Amory A. Lawrence,
George G. Kennedy,
Nathaniel T. Kidder,
Emile F. Williams,
Walter Deane,
George R. White,
John E. Thayer,
Joseph R. Leeson,
Susan Minns (Miss),
Mrs. William G. Weld,
Katharine P. Loring (Miss).

To visit the Museum of Comparative Zoölogy

J. Collins Warren,
Augustus Hemenway,
George P. Gardner,
Louis Cabot,
Dudley L. Pickman,
Francis N. Balch,
William Brewster,
Rodolphe L. Agassiz,
John E. Thayer,
John L. Gardner.

To visit the Peabody Museum

George D. Markham,
Charles P. Bowditch,
Augustus Hemenway,
Henry W. Haynes,
Jesse W. Fewkes,
Clarence J. Blake,
Clarence B. Moore,
Elliot C. Lee,
Louis J. de Milhau,
John C. Phillips,
Thomas Barbour,
Robert G. Fuller.

To visit the Germanic Museum

Hugo Reisinger,
William Endicott, Jr.,
Henry W. Putnam,
Clement S. Houghton,
Otto H. Kahn,
David P. Kimball,
Edward R. Warren.

To visit the Botanical Museum

Walter Hunnewell,
Elliot C. Lee,
David Pingree,
Mary Lee Ware (Miss),
William Powell Wilson,
Benjamin Preston Clark.

To visit the Arnold Arboretum

William A. Gaston,
Walter Hunnewell,
Charles E. Stratton,
Mary S. Ames (Miss),
Abby A. Bradley (Miss),
John E. Thayer,
Frank G. Webster,
Charles A. Stone,
Herbert Parker,
Bayard Thayer,
William C. Endicott.

To visit the Semitic Museum and Division of Semitic Languages and History

Jacob H. Schiff,
George Wigglesworth,
George D. Markham,
Isidor Straus,
William C. Endicott,
John Wells Morss,
David A. Ellis,
Herbert E. Davidson.

To visit the Fogg Museum and the Department of Fine Arts

J. Templeman Coolidge, Jr.,
Bernhard Berenson,
Arthur Fairbanks,
J. Randolph Coolidge, Jr.,
Alfred A. Pope,
Paul J. Sachs,
Mrs. J. Montgomery Sears,
Edward W. Emerson,
George N. Black.

To visit the Graduate School of Applied Science

Frederick P. Fish,
Howard Elliott,
John Lawrence,
A. Lawrence Rotch,
Ernest B. Dane,
James J. Myers,
Philip Stockton,
Hammond Vinton Hayes,
Carroll Dunham,
Clemens Herschel,
Odin Roberts,
Charles P. Perin.

To visit the Graduate School of Arts and Sciences

Frederick P. Fish,
Henry Cabot Lodge,
Stratton D. Brooks,
Gardiner M. Lane,
Charles P. Bowditch,
Owen Wister,
Edward Robinson,
Arthur A. Noyes,
Francis B. Gummere,
William Preston Few,
William K. Richardson.

To visit the Jefferson Physical Laboratory and Department of Physics

Howard Elliott,
Elihu Thomson,
Erasmus D. Leavitt,
Elliot C. Lee,
Samuel Hill,
Hammond Vinton Hayes.

To visit the Chemical Laboratory

J. Collins Warren,
Clifford Richardson,
Elihu Thomson,
Morris Loeb,
Charles H. W. Foster,
John D. Pennock,
Alexander Forbes.

To visit the Stillman Infirmary

Clarence J. Blake,
J. Collins Warren,
Augustus Hemenway,
George B. Shattuck,
James A. Stillman,
Herbert B. Howard,
Edmund H. Stevens,
William L. Mowll,
James Purdon.

To visit the Graduate School of Business Administration

Howard Elliott,
J. Pierpont Morgan, Jr.,
Amory A. Lawrence,
George D. Markham,
Charles W. Eliot,
Thomas W. Lamont,
Charles H. Jones,
A. Shuman,
Alfred L. Aiken,
Russell G. Fessenden,
Jerome D. Greene,
James F. Curtis,
Adams D. Claflin.

ON PHYSICAL TRAINING AND ATHLETIC SPORTS

Lawrence E. Sexton,
Abbot L. Mills,
J. Wells Farley,
William S. Hall,
Edward D. Brandegee,
Robert F. Clark,
Maurice H. Richardson,
William Hooper,
Clarence J. Blake,
Samuel H. Durgin.

ON THE ADMINISTRATION OF THE UNIVERSITY CHAPEL

George Wigglesworth,
George A. Gordon,
William Lawrence,
Paul R. Frothingham,
Samuel M. Crothers,
Roland W. Boyden,
William DeWitt Hyde.

ON THE RELATION OF THE UNIVERSITY TO SECONDARY SCHOOLS

Jerome D. Greene,
George Wigglesworth,
John Goddard Hart,
Frederick P. Fish,
William Bennett Munro,
Edgar H. Wells,
Alfred Ernest Stearns,
William Orr,
George P. Hitchcock.

ON THE TREASURER'S ACCOUNTS

Francis L. Higginson,
William Endicott, Jr.,
William A. Gaston,
William C. Endicott,
Grafton St.L. Abbott,
Allan Forbes,
Arthur Lyman,
Richard C. Storey,
John L. Saltonstall.

FOR THE COLLEGE

ON GOVERNMENT

Charles W. Eliot,
William Lawrence,
Theodore Roosevelt,
William A. Gaston,
William C. Boyden,
William Endicott, Jr.,
William L. Richardson.

FOR THE COURSES OF INSTRUCTION

ON INDIC PHILOLOGY

William Sturgis Bigelow,
A. V. Williams Jackson,
Percival Lowell,
Paul Elmer More.

ON THE CLASSICS

Gardiner M. Lane,
Lawrence E. Sexton,
Babson S. Ladd,
Edward D. Brandegee,
Russell Gray,
Prentiss Cummings,
W. Amory Gardner,
William K. Richardson.

ON ENGLISH

Robert Grant,
Samuel M. Crothers,
William R. Thayer,
Owen Wister,
George R. Nutter,
Francis J. Swayze,
Albert Matthews,
M. A. DeWolfe Howe,
George G. Crocker,
George A. Gordon,
John T. Morse, Jr.

ON GERMAN

Frederick P. Fish,
James Monroe Olmstead,
George Francis Arnold,
Edward Ruhl.

ON FRENCH

J. Templeman Coolidge, Jr.,
T. Russell Sullivan,
Gordon Abbott,
Francis McLennan,
Paul R. Frothingham.

ON ITALIAN, SPANISH, AND ROMANCE PHILOLOGY

George B. Shattuck,
J. Randolph Coolidge, Jr.,
James Geddes, Jr.,
William R. Thayer,
William B. de las Casas.

ON HISTORY

James Ford Rhodes,
William R. Thayer,
Worthington C. Ford,
Henry H. Edes,
William F. Wharton,
Charles P. Greenough,
James Schouler,
Oswald G. Villard.

ON GOVERNMENT

William Endicott, Jr.,
James T. Mitchell,
Abbot L. Mills,
Charles S. Hamlin,
Samuel W. McCall,
Augustus E. Willson,
Frank G. Thomson,
Thomas L. Livermore.

ON POLITICAL ECONOMY

Francis J. Swayze,
John F. Moors,
Charles W. Eliot,
John W. Morss,
I. Tucker Burr,
William Endicott, Jr.,
Robert Treat Paine (Class of 1888),
Camillus G. Kidder.

ON PHILOSOPHY

Reginald C. Robbins,
George B. Dorr,
Richard C. Cabot,
Richard H. Dana,
William R. Warren,
Joseph Lee,
George A. Gordon.

ON METHODS OF EDUCATION

John F. Moors,
George D. Markham,
Frederic A. Delano,
Charles W. Hubbard,
Frederic P. Cabot,
Robert S. Gorham,
Joseph Lee.
James J. Storrow,
David A. Ellis.

ON THE DEPARTMENT OF ARCHITECTURE

Robert S. Peabody,
C. Howard Walker,
R. Clipston Sturgis,
J. Harleston Parker,
Daniel H. Burnham,
Charles K. Cummings,
Henry Forbes Bigelow.

ON MUSIC

Arthur Foote,
George D. Markham,
George A. Burdett,
Horatio A. Lamb,
Percy L. Atherton,
Owen Wister,
Frederick S. Converse.

ON MATHEMATICS

William Lowell Putnam,
George V. Leverett,
Philip Stockton.

ON ENGINEERING

Frederick P. Fish,
Joseph R. Worcester,
Edmund A. Stanley Clarke,
Charles H. Manning,
Clemens Herschel,
Charles C. Schneider,
Edwin W. Rice, Jr.,
Frederic W. Taylor.

ON BOTANY

Nathaniel C. Nash,
George G. Kennedy,
Walter Deane,
Edward L. Rand.

ON ZOÖLOGY

William L. Richardson,
Augustus Hemenway,
William Brewster,
George P. Gardner,
John E. Thayer,
Dudley L. Pickman,
Francis N. Balch,
Rodolphe L. Agassiz,
John C. Phillips.

ON GEOLOGY, MINERALOGY, AND PETROGRAPHY

George B. Leighton,
Rodolphe L. Agassiz,
George P. Gardner,
William E. C. Eustis,
Raphael Pumpelly,
William Sturgis Bigelow.

ON MINING AND METALLURGY

John Hays Hammond,
Charles P. Perin,
R. A. F. Penrose,
Quincy A. Shaw,
Frank H. Taylor,
Edgar C. Felton,
Hennen Jennings,
Benjamin B. Thayer,
Albert F. Holden.

ON FORESTRY

Amory A. Lawrence,
Theodore Roosevelt,
John S. Ames,
James S. Russell,
James W. Brooks,
Frederick J. Caulkins,
John E. Thayer,
George C. Cutler,
Henry James, 2d,
Frederick L. Olmsted,
Warner B. Butler.

ON PROGRAMMES OF STUDY IN HARVARD COLLEGE

Frederick P. Fish,
Jerome D Greene,
William Lawrence,
William L. Richardson,
William Rand, Jr.

No. 28

REPORT OF THE COMMITTEE TO VISIT THE ASTRONOMICAL OBSERVATORY

To the Board of Overseers of Harvard College: —

The undersigned Committee, appointed by your honorable body to visit the Astronomical Observatory of the University, beg leave to report as follows: —

They have visited the institution and have familiarized themselves with its condition and work. Since its foundation, seventy years ago, the Observatory has existed for research and not instruction. The work of instruction is well supplied by another department of the University.

The statutes of the Observatory, and the various gifts upon which its existence depends, require it to devote all its energies to the advancement of Astronomy through its research and discoveries.

The Observatory has filled a unique field, because it has not followed the beaten path of astronomical work, but has always entered into new and untried fields, often in the face of severe criticism.

One of the greatest advances of modern Astronomy, the application of photography to the stars, is one example. The development of the chronograph, by which the time of any celestial phenomena can be accurately recorded, is another illustration.

At the same time the older lines of research, usually called the "Old Astronomy," in which accurate positions of heavenly bodies have been sought, have not been neglected. A catalogue of sixteen thousand stars, the first and almost the only accurate measures of the very faint stars in existence, was prepared by a very novel method, which is still the best for the purpose. Later the measurement of two zones of stars with the eight-inch Meridian Circle, as a part of a great international undertaking which had for its object the accurate observation for positions of all stars down to the ninth magnitude, was a great contribution to the older class of astronomical work.

Each of these zones occupied the time of an observer and two corps of assistants for nearly a quarter of a century, and must have cost at least a hundred thousand dollars apiece.

In 1877, under the directorship of Professor E. C. Pickering, a new line of investigation was adopted, having for its object a study of physical peculiarities of the light of the stars. This may be described as the accurate measurement of the intensity of the light of the stars, instead of their position. More strictly, it is the measure of the intensity of the light of different wave lengths, since it includes the classification and peculiarities of their spectra as well as a general measure of their light. This work has been pursued with unremitting zeal and success for more than thirty years. The difficulties in these untried fields can only be appreciated by those conversant with the special subject, and the great success obtained speaks volumes of praise for the Director and his associates. Because of the generous endowment of the Observatory the policy of carrying out large pieces of routine work has been possible far beyond the means of the private individual or the small observatory.

Every effort has been made to obtain the greatest accuracy of results, but at the same time that the largest amount of material might be collected, and through a good system economy of time be preserved.

Four fundamental systems have been developed which are well known throughout the astronomical world and have received very general acceptance.

1. A scale of photometric magnitudes, obtained with the Meridian Photometer invented by the Director; the results being based upon more than two million settings.
2. A scale of photographic magnitudes, in which the effect of the light of the stars on the salts of silver, and not the effect upon the human retina, is the standard.
3. A system of classification of variable stars, including methods by which great numbers have been discovered, light curves and periods have been found for them and many thousands of measures of their brightness upon a scale which is the same for stars in all parts of the sky.
4. A system of classification of stellar spectra has been adopted and applied to the detailed classification of nearly five thousand stars and the approximate classification of many thousand more. This investigation has led to the discovery of several thousand stars having peculiar spectra of a character previously unsuspected.

While it would be rash to predict that these systems will obtain universal acceptance in the future, it can at least be said that each is based upon a larger amount of observation than has been collected elsewhere and that the systems are now very generally used as the working basis of progress and tend each year to receive more general acceptance.

The recent expression of the opinion of astronomers in regard to the Draper Classification of Stellar Spectra is extremely favorable to the Observatory.

Besides all this, two hundred thousand photographic plates of the stars have been taken and are now preserved in a fireproof building. They represent a history of the entire sky from the North Pole to the South Pole over a period of twenty-five years. Nothing like this in extent and completeness exists in the world.

The collection is unique and gives the material to rescue from the past the history of the phenomena of the sky which is even now unknown, but infallibly recorded on the photographic plates.

The work described above represents the continuous efforts of an average of about forty persons during the last thirty years and an expenditure of approximately a million and a half dollars.

The principal results of the work of the Observatory are shown in its Annals, a series of quarto volumes now seventy in number. During the first twenty-five years of the Observatory's existence, two of these volumes were issued on an average every five years. During the last twenty-five years about two a year have been published, a five fold increase.

This enlarged output is partly due to the increased resources of the Observatory, but especially in recent years to improved organization, methods of reduction, and preparation for publication.

The amount of material still unpublished is very great, and that, together with the work already planned under the present organization, might readily bring the number of the Annals up to one hundred volumes.

As the field of work undertaken is in no way duplicated elsewhere in the astronomical world and the material, especially that derived from the photographic plates, is in such great demand by astronomers the world over, it is obviously important that this material should be collected and published as rapidly as possible.

The important work for the permanent benefit of the science of Astronomy which only a great observatory can undertake is to carry through large pieces of work extending over a long period of time. It is from such a policy that the Greenwich Observatory, founded in 1675, has carried on a study of the Motions of the Moon and Planets, which is of the highest value.

In like manner the Pulkowa Observatory has become the great authority on the positions of fundamental stars.

These illustrations show how important it is for an observatory to specialize and carry on continuously the work which it has elected for itself. It is the hope of the Board of Visitors that the Director of the Observatory will push forward along the lines of his policy, which have already borne such wonderful results and have made the Observatory one of the greatest in the world.

It is with pleasure that we notice the faithful and efficient work of the staff of workers at the Observatory, and particularly that of the Director, which has brought him the highest scientific honor from abroad, and placed the Observatory in the forefront of the world's scientific institutions.

The work laid out and prosecuted by him has not been of a nature to attract popular attention, and it has required great courage to enter upon the patient and long-continued investigation of phenomena of such character that decades or perhaps even centuries might be required to reveal the true scientific import of the results obtained. But such work is for all time, and, while in fact its great value did become apparent at an early date, yet in future years its importance will be more and more manifest.

Though the endowment of the Observatory may seem most generous to an outsider, from the standpoint of the work that might be done it is inadequate.

The expenses are exceeding the income. A partial remedy, but it is hoped only a temporary one, has been found by a reduction of the work at the Arequipa Station. Meanwhile, the library is housed in a wooden building liable to complete loss by fire, and the continual increase in the collection of photographs demands a new wing to the fire-proof building containing them. What is accomplished in work upon the astronomical photographs is a small part of what might be done, for here we have a unique library of two hundred thousand glass volumes with only about a dozen readers to interpret them and give their wonderful story to the world.

JOEL H. METCALF, *Chairman*,
GEORGE I. ALDEN,
GEORGE R. AGASSIZ,
CHARLES F. CHOATE, JR.,
CHARLES R. CROSS,
MRS. ANNA P. DRAPER,
ERASMUS D. LEAVITT,
ELIHU THOMSON.

SEPTEMBER 27, 1911.

No. 29

REPORT OF THE COMMITTEE TO VISIT THE ARCHITECTURAL DEPARTMENT

To the Board of Overseers of Harvard College: —

The Committee to visit the Architectural Department offers the following report: —

Last year there were thirty-one students of architecture in the Architectural Department. This year there have been thirty-nine. What, however, gave the more anxiety last year to all those interested in the Department was the fact that of the thirty-one students only six were regular members of the School of Applied Science. In order to make the courses more inviting to students most serious endeavors have been made to increase and strengthen the teaching force. Pending the selection and permanent engagement of another instructor in design, Professor Despradelles of the Institute of Technology assisted in this instruction until continued illness compelled him to stop. Early this year Mr. Duquesne was appointed Professor of Design. He was a pupil of the École des Beaux Arts, and a holder of the Grand Prix de Rome, and a man of distinction in his profession in Paris. Following these bettered conditions the number of students of architecture in the Graduate School of Applied Science (which is ultimately to include all the students doing professional work) increased from six to twenty-one. This was encouraging although towards the last of the year the number fell, for various reasons, to fourteen. However, the new arrangements seem already to have improved the work done in the School. Your Visiting Committee at its last meeting in Cambridge agreed that the studio work had never appeared to better advantage than at this moment, although the small number of students enjoying the lavish conveniences and opportunities offered at Robinson Hall is a thing to be regretted.

During the year Professor Humphreys has taken the place of Mr. Mowll as Assistant Professor in Design, and Mr. Lawrie has been made Instructor in Modelling. The plan by which members of the architectural profession have lately conducted the work in certain problems has been changed, and instead three practising architects are next year to give lectures on architectural design to the students. Professor Sabine is also to give a course on architectural acoustics.

There is good reason now to look forward to renewed vigor and prosperity in the Department of Architecture.

ROBERT S. PEABODY,
J. HARLESTON PARKER,
R. CLIPSTON STURGIS,
HENRY FORBES BIGELOW,
C. HOWARD WALKER,
CHARLES K. CUMMINGS,
D. H. BURNHAM.

October 11, 1911.

No. 30

REPORT OF THE COMMITTEE ON GEOLOGY, MINERALOGY, AND PETROGRAPHY.

To the Board of Overseers of Harvard College: —

Your Committee on Geology, Mineralogy and Petrography desires to report as follows:

The Committee met at the Geological Museum on January 6, 1912, all members save one being present. There was a full discussion with the instructors of the work of the department.

The position of Professor of Geology has never been filled except by a shifting about process since the death of Professor Shaler. The officers of the University are aware of the seriousness of this condition, for it is evidenced by the continual diminution in the number of students, and are making efforts to secure not only a competent but exceptionally qualified man for the work. We understand happily there are no financial problems causing the present condition. Your Committee most urgently recommends that there should be no delay in this matter. The general courses of instruction in the department seem to be efficiently handled, and a more earnest group of instructors could hardly be found, but they are shorthanded and in a most important way, as indicated.

Professor Davis has been absent this year but is expected to give two courses next year. Assistant Professor Woodworth has been promoted to an associate professorship, — a promotion highly merited, — and he has in some ways been the mainstay of the department. Assistant Professor Raymond comes in February. He will give half of his time to Museum work and half to teaching in palaeontology. Last year there was no instruction in palaeontology, students being obliged to go to the Massachusetts Institute of Technology for it. Owing to the resignation of Professor D. W. Johnson his courses in physiography will have to be omitted next year, save possibly an elementary half-course.

There is practically no instruction in the department in what is known as economic geology. There is a half-course only, while at Yale, Cornell, Columbia, and other universities, whose schedules the Committee has examined, there are numerous well attended courses. Economic geology treats of the non-metalliferous substances of the earth, such as clay, on which Cornell has several courses; oil, in which the Case School of Applied Science at Cleveland leads; building stones, cement and phosphate rocks, and numerous other subjects.

Harvard University in some way must furnish adequate instruction in this field, not only as a matter of obligation as a national university, but no field offers more gainful occupations to young men. At present an effort is being made to erect a group of buildings for the chemical department, and the scope of instruction in industrial chemistry will be broadened. Industrial chemistry and economic geology merge into one another. What we know about both is probably much less than what we do not know, and what Harvard teaches to-day in either is embarrassingly insignificant.

Your Committee held a joint meeting with the committee on the mining school, as that school is feeling severely the condition of the geological department. As a result of that meeting, the following resolution was passed unanimously and presented to the President of the University: —

> *Resolved*, That the Chairman of the Joint Committee state to the President of the University that the great need of the department is of a Professor of Geology who shall combine the qualities of an inspiring teacher and good executive, and who shall devote his entire energies to the upbuilding of the department.

In the geological department there is a large floor area intended as a laboratory of economic geology which is not utilized and the library of economic geology left by the late Professor Whitney is little used. It was one of the best as long as Professor Whitney lived, but it should be kept up to date.

Aside from these two important recommendations, a Professor of Geology and courses in economic geology, the Committee has little to report. There seems to be some demand for instruction which would more particularly and more satisfactorily train men for the United States Geological Survey, and for like work required by large private interests.

Respectfully submitted,

GEORGE B. LEIGHTON, *Chairman*,
RODOLPHE L. AGASSIZ,
GEORGE P. GARDNER,
WILLIAM E. C. EUSTIS,
RAPHAEL PUMPELLY,
WILLIAM STURGIS BIGELOW.

FEBRUARY 28, 1912.

No. 31

REPORT OF THE COMMITTEE TO VISIT THE MEDICAL AND DENTAL SCHOOLS.

To the Board of Overseers of Harvard College: —

Last year your Committee devoted its report mainly to a consideration of the progress making toward a sound development of the best relations between the Harvard Medical School and the hospitals which provide clinical facilities for teachers and students of the School. This year its attention has been forcibly called and largely directed to a consideration of the urgent need of increased endowment especially for the so-called clinical departments — that the School may profit in the highest measure by this development of clinical facilities.

The plant of the School was represented in its earliest days (1783) by the tenancy of Holden Chapel in Cambridge; in 1816 it had moved to a small, though larger building in Mason Street, Boston; then to North Grove Street, in 1846; then, on its Centennial Anniversary in 1883, to Boylston Street, where its plant, land and buildings represented an outlay of $358,000; and in 1906 it moved to its present situation, where its plant represents an outlay of $3,000,000, with an endowment fund of $3,500,000, a considerable portion of which is restricted.

And yet your Committee is compelled to say to you that the School is regarded as needing an additional endowment of $1,500,000, and needing it badly for living salaries of professors and teachers in its clinical departments, that clinical teaching and investigation may be developed on the same scale as exists in the laboratory branches. We learn from the Dean that in 1910–11 the various departments in the Harvard Medical School expended $184,041.82. Of this amount $129,976.73 was expended by laboratory departments, and $53,815.09 by clinical departments. The cost of maintenance of the School buildings was $60,517.73, and of the buildings one fifth (estimated) of the space was devoted to clinical departments, making a division of the sum for maintenance as follows: $12,103.54 for clinical departments, and $48,414.19 for laboratory departments. Adding these figures to the preceding we have

Cost of laboratory departments, 1910–11	$178,390.92
“ “ clinical “ “	65,918.63

$1,500,000 endowment would yield at the rate of interest earned by University funds in 1910–11, $72,000 income.

This, added to the amount now expended by clinical departments, would make available for clinical departments $137,918.63, or $40,000 less than the sum expended in 1910–11 by laboratory departments. Clinical departments at present give somewhat more than half the total number of hours of instruction furnished to regular students in the Harvard Medical School, hence the above division would represent what may be termed a fair division of moneys between the laboratory and clinical departments to allow of a development of clinical departments in a way commensurate with that of laboratory departments, and still recognizes that laboratory departments should cost more ($40,000) than clinical departments.

The total income of the Medical School from all sources is about $280,000. This report deals only with totals concerned in the administration of the clinical and laboratory departments as such.

If we accept these statements of the present financial resources of the School, of the disposition made of them, and of the need for further endowments, the time seems now to have arrived for taking steps toward a more definite organization of the accounting with the Medical School in its relation to the general accounting system of the University.

Naturally, while this great growth and development has been going on, the accounting methods have not kept pace with the development of the School and its funds. The accounting duties in connection with the drafting of the Budget, which have heretofore been performed by or under the supervision of the Dean of the School, should, it seems to us, be largely performed by a business assistant who could relieve the Dean of a considerable portion of the burthen of his duties in that regard, thus avoiding interference with the duties of a professional character which naturally devolve upon him. Moreover, it seems to your Committee that some more economical method might readily be adopted for the purchase of supplies.

The retirement of the present Dean, to devote his time and attention to professional work, seems to emphasize the very great importance of relieving the Deanship from functions which can well be performed by an officer in the nature of an accounting assistant, and to present a favorable moment for the installation of such an officer — whatever technical title might ultimately be preferred — who should be charged with the duty of keeping in order all the various accounts connected with the operation of the Medical School, thus installing an accounting officer of the Medical School, to represent it in its pecuniary dealings with the general treasury of the University.

We appreciate the importance to the Medical School of securing further funds for providing for various branches of its work, but we feel that suitable accounting arrangements now made in respect to the existing funds will serve also for the methodical and economical administration of such further funds as may be hereafter secured for the benefit of the School. We cannot help thinking that such systematic organization of the accounts, while tending to provide a relief to the professional staff which will be greatly appreciated by it, will tend to satisfy possible contributors to new funds that amounts contributed by them will be judiciously and economically administered. This we must all recognize as being an important aid in obtaining further contributions.

The need of endowment for salaries of professors and teachers in the Dental School is also great, and is strongly emphasized in the last annual report of the President of the University.

This present report, which might easily have been extended in greater detail, we trust will be read, by those interested, in the light of the longer report made to you by your Committee last year.

GEORGE B. SHATTUCK, *Chairman.*
J. COLLINS WARREN.
ALEXANDER COCHRANE.
WILLIAM STURGIS BIGELOW.
HENRY H. SPRAGUE.
HENRY SALTONSTALL HOWE.
WILLIAM L. RICHARDSON.
CHARLES P. BRIGGS.
JAMES C. WHITE.
CHARLES H. TWEED.

April 10, 1912.

No. 32

REPORT OF THE COMMITTEE TO VISIT THE BUSSEY INSTITUTION

To the Board of Overseers of Harvard College:—

The Committee to visit the Bussey Institution has visited the Bussey at intervals during the past year, and held a regular meeting there on February 28th, 1912, five members being present; going over the laboratories with some care. The Bussey is doing well, and there appears to be no special reason for making a formal report. The immediate present need on a small scale is for reference and technical books, of which a list has been prepared and is on file.

CARROLL DUNHAM, *Chairman.*

April 10, 1912.

No. 33

REPORT OF THE COMMITTEE TO VISIT THE DEPARTMENT OF GOVERNMENT.

To the Board of Overseers of Harvard College: —

The Committee appointed to visit the Department of Government presents the following report on the instruction given in this Department during the academic year 1911–12, together with a summary of additions made to the Department's equipment during the year, and a statement of what the members of the Department believe to be their more important needs in the way of additional instruction and facilities. The programme of instruction in the Department, as compared with that of the year 1910–11, represents no important change in the general amount provided. The total number of students enrolled in courses within the Department is 865 as contrasted with 821 in 1910–11.

The New Elective System

Under the new rules relating to the choice of elective studies the number of students "concentrating" in the Department is thirty-three, or slightly more than six per cent of the Sophomore Class (the only class thus far to indicate its choices). This percentage may seem small, but it is larger than in any other department with five or six exceptions. It is, for example, larger than that of the Departments of Philosophy and Mathematics combined. Students who elect to concentrate in any department must take at least four courses therein. If account be taken only of those courses which are freely open to undergraduates and which are not of a strictly special nature, it will be seen that the programme of instruction now offered by the Department of Government gives very little leeway to these students. In fact, one might say that for students concentrating in the Department of Government the courses to be taken by them are virtually prescribed.

Faculty Absences

The absence of Professor Stimson in Europe during the whole year and of Professor Hart during the second half-year necessitated the omission of some courses and the rearrangement of others. Professor Stimson's course on Constitutional Law was given during the first half-year by Mr. Yeomans and in the second half-year by Mr. F. W. Dallinger. Professor Hart's work in Government has been looked after during his absence by Professor Wilson. A very acceptable addition to the year's programme of instruction has been the course in Municipal Government (Government 7) conducted by Hon. Nathan Matthews of Boston. Mr. Matthews gave his time to this work at great personal sacrifice. Some lectures were also given by Hon. Stephen O'Meara, Police Commissioner of Boston, and by Hon. D. A. Ellis, Chairman of the Boston School Board.

Additions to the Department's Facilities

Three notable additions to the Department's general equipment have been made during the year. The first of these was the library of international law which the Harvard Law School secured from the Marquis Olivart. This splendid collection of works relating to the Law of Nations was bought from the Law School funds; but the books will be available for use by all advanced students of international law in the Department of Government. In fact, they will probably be more frequently used by students of Government in the Graduate School of Arts and Sciences than by students of the Law School itself.

The Municipal Research Bureau

In the second place the University's Bureau for Research in Municipal Government was established in September, 1911, through funds generously provided by Messrs. Frank Graham Thomson, '97, and Clarke Thomson, '99. The Corporation gave for this purpose the use of rooms in the rear wing of Wadsworth House, which were conveniently fitted up for use by students of Government. During the year 943 volumes and 1343 pamphlets have been obtained by the Bureau and have been put upon its shelves. In addition 354 books and 131 pamphlets are on deposit from the University Library. This collection consists of the charters and revised ordinances of every large American city, also latest issues of city documents, special reports, etc. An endeavor is being made to secure complete files of the more important periodical publications relating to municipal government and publications issued from time to time by the more active municipal reform organizations. The Bureau has been very freely used by the students of municipal government. Modest tasks of research have been undertaken at the outset, but the results have been in some cases transmitted to public authorities and have been found useful by the latter. It is hoped that in the course of another year or two some of the material gathered in the Bureau may be made available in printed form.

THE COLLECTION OF MATERIALS RELATING TO FEDERAL AND STATE GOVERNMENT

The third enterprise of great consequence to the Department of Government is the collection of federal documents relating to state and national government. This has been in charge of Dr. Holcombe. Quarters for this work are also provided in Wadsworth House. Altogether 1061 documents have been secured since the beginning of the year, including legislative manuals, governors' messages, reports of state administrative officers and commissions, blank ballots for primary and general elections, maps of congressional legislative districts, and the rules of procedure in legislative bodies. There have also been received a considerable number of documents of a similar character from the insular possessions and miscellaneous documents relating to special topics. Much material relating to party organization and machinery has been secured for the University Library, including campaign handbooks and other things which would be impossible to obtain after a year or two. All these have been classified and filed for future use. Many private letters from Harvard graduates in various states have been received in response to inquiries concerning the actual operation of such matters as direct primary and corrupt practices acts, the initiative, referendum, etc. Many graduate correspondents have not only sent full and valuable replies, but much material of a fugitive character which could not otherwise have been obtained. A full list of graduate correspondents who have assisted in the collection both of state and municipal material will be communicated to the Associated Harvard Clubs at their next convention.

THE PROPOSED GUIDE

With the approval of the President and Fellows, the members of the Department have undertaken to compile a "Guide to the Study of American Government," this work to be done during the next academic year. Arrangements have been made for the publication of this volume, which will be a bibliographical work of about five hundred pages. It will contain classified lists of official and secondary materials relating to every branch of American government, national, state, and local. The members of the Department believe that the volume will be of great advantage both to teachers and students of Government. Each member of the Department has undertaken the preparation of some one of the several sections. The publishers have assumed entire financial responsibility for this volume, so that it will involve no outlay from University funds.

Among the needs of the Department two or three stand out very prominently. The programme of instruction for next year, as at present planned, contains many important gaps which ought not to remain permanently unfilled. No courses are available, for example, in the whole field of Colonial Government and Administration, Administrative Law, or Foreign Government. Compared with the instruction in political science offered at other large institutions, such as Columbia, our prospectus for next year does not make a very good showing. Our first need, therefore, is for more instruction, particularly instruction for men in the upper undergraduate classes. The introductory course in Government has a larger enrolment this year (about five hundred students) than any other elective course in Harvard College. Many of these Freshmen will desire to pursue the subject during Sophomore, Junior, and Senior years, but the number of courses available for them is much smaller than in some other departments where the enrolment is by no means so large.

The second need is for a regular publication fund, the income of which would be devoted to publishing meritorious theses presented for the degree of doctor of philosophy by graduate students in the Department. Before the separation of the Department of Government from the Department of History, such studies were published out of the income from the Henry Warren Torrey Fund; but this fund is now wholly under the control of the Department of History and its income will, of course, be devoted to the publication of researches undertaken in that Department. A fund yielding an income of five hundred dollars per year would probably suffice. Not more than one volume per annum would be available for publication, and there would be some return from sales. The income of the Henry Warren Torrey Fund is only about seven hundred and fifty dollars per year, yet it is more than enough to meet the requirements of the Department of History in the matter of publication.

For the Committee,

ABBOT L. MILLS, *Chairman*,
CHARLES S. HAMLIN,
FRANK G. THOMSON,
WILLIAM ENDICOTT, Jr.

May 1, 1912.

No. 34

REPORT OF THE COMMITTEE ON MATHEMATICS

To the Board of Overseers of Harvard College: —

Your Committee take great pleasure in reporting two experiments which are this year being put into successful operation in the Department.

The first is the new course in what may be called Elementary Mathematics, open to those who have entered College on the minimum requirement and covering a certain amount of Trigonometry, Analytical Geometry, and the Calculus. This enables even the Freshmen to get some knowledge of the Calculus. It is, therefore, of especial value to those who are taking only one course in our Department and comes near to filling the place occupied in other Departments by such courses as Chemistry 1 and History 1. Your Committee consider its introduction a great step forward.

The other new departure is in the teaching of one of the sections of Mathematics 2, the course in the Calculus for Sophomores. In this section the students are required, in addition to the three hours a week given to lectures, to give three hours a week to solving problems in the class-room under the immediate supervision of the Professor and two Assistants. In the other section of the same course three hours a week are also given to lectures but all problems are still done outside of the class.

The systematic effort made in the section taught in the new way to show the pupils individually how to do problems seems to your Committee of great interest and full of promise for the future. The Professor and his Assistants tell us that the hints that they are able to give during the problem hour are very helpful to the average student, and not only remove obstructions on which much time would otherwise be wasted but sow seed which ripens into a capacity for handling future problems. The men divide themselves between the sections according to their own choice and very much as we should expect. Those who have confidence in their ability to do the examples without assistance and who wish to have their time free, including some of the best men in the class, take the section conducted in the old way and so also do certain unambitious students who do not wish to give much time to the subject, but a considerable majority, including most of those of average ability who expect to attain Grade C, prefer the six-hour section and get more out of the course by this arrangement than they possibly could do under the old one.

The attendance at all of the Elementary Courses in the Department this year is very gratifying, but we feel that the percentage of the class which takes no Mathematics at all in College is still much too large and hope that the new developments will lead to a further improvement in this respect.

WILLIAM L. PUTNAM.
PHILIP STOCKTON.
GEORGE V. LEVERETT.

June 12, 1912.

No. 35

REPORT OF THE COMMITTEE ON FRENCH

To the Board of Overseers of Harvard College: —

A glance at the reports of the Visiting Committee to the French Department for the last ten years will show that three important needs have been repeatedly dwelt upon, and, in spite of progress, these needs still exist.

I. The need of enabling the student to make use of the French language at Harvard, by practice in speaking it.

II. The need of more Frenchmen to teach their own language.

III. The need of reducing the size of the divisions.

The functional knowledge acquired should be turned to practical use. This could be begun even in the early stages, to make the acquirement a reality, rather than an accumulation of facts which, for lack of practical application and development, soon becomes dormant. The student gains a considerable amount of knowledge, good so far as it goes, but stored up to no very definite end and seldom reaching the practical point.

To the larger number of our students, French is as much a dead language as Latin and Greek, and is learned in much the same way, — without a working capacity of its use, which alone can make it living.

While it would be to the advantage of all, it is obvious that some of the thousand odd students who take French at Harvard are not able, or desirous, to make themselves practical masters of the language; but, with these exceptions, it should be required of all.

The acquisition of grammar, of reading and translation is well taught in the various courses: the trouble is, that the student does not know what to do with it, because he has not been led to apply it in the form of speech. The remedy would be to teach him how to do that by conversational courses conducted by French-speaking teachers. In one course after another, in a well-planned development, from the elementary to the highest, much time and work and thought are spent; but the development should not stop there. It is probable that the undergraduate, and later the graduate, launched into the business of life, having a working knowledge of the language, would hold, enjoy and extend the academic learning if able to use it practically.

We have heard of a Harvard student, well equipped in French, landing in Paris and having to talk to his coachman in English from mere lack of opportunity to apply his knowledge. A course of practical, speaking lessons at the Berlitz School of Languages — to give a homely illustration — might not be considered Academical; but, added to the solider work of the College, would "do the job." This should be done, not by the Berlitz School, but by able instructors of the French Department.

In this connection, your Committee recommends that, so far as possible, courses should be conducted with French as the medium of instruction. It would be a little harder for the elementary student to follow, but would be well worth the effort. Taking the two principal courses as illustration : — In French 1, only forty-five men out of one hundred and thirty are taught by the medium of French ; and in French 6, but sixty out of three hundred and fifty. So, by a very large proportion, English is used to teach the French language at Harvard. Two sections in French 1 were successively followed, recently, by a member of your Committee. The lesson was the same, but one was conducted in French by a Frenchman, and the other in English by an American. Both were teachers of unusual ability, but there was no doubt of the greater interest developed in the first section ; which, besides including the spoken language, was much more picturesque and illustrative. In it the students were getting something more than the mere lesson.

There has been material progress in this direction in two courses (three, if we include Professor Allard's advanced course), by securing two Frenchmen of quality, MM. Raiche and Mercier. This is a beginning only — and the Department joins your Committee in desiring the number increased, in order that a much larger proportion of pupils should be taught in French by Frenchmen.

The second need — of adding more Frenchmen to teach their native language — is important. Out of seventeen instructors, but three are French. The Committee does not recommend that native French teachers should ever be in the majority. There are excellent reasons why English-trained instructors (at present there are ten of high efficiency who have developed in the College) are needed ; but the present disparity in numbers is one from which the Department suffers. It is suggested by the Department, that some of its funds should be spent in getting young men from the Collège de France — and opportunities are growing better for this — rather than to increase the number of young graduate teachers.

The third need — of reducing the size of the divisions — is also important. Last year has shown an improvement in this respect, with sections which averaged thirty-five men each reduced to twenty-seven; but even this number is too large to enable the student to receive the personal attention of the instructor, and to be properly taught. It is not in accordance with the French practice of teaching in detail by thinking and talking in French and by reading a small amount very carefully, which means better quality and less quantity. Quality, especially in French, is sacrificed to the necessity of teaching large numbers, and wholesale methods of teaching necessarily follow large divisions; and it is deplorable to have to teach a large proportion of one thousand students in French, by wholesale.

The concentration of the courses in French 1 and 6, where one hundred and fifty men are taught in a number of smaller sections, has been a much desired improvement. It is in these courses that certain sections are conducted in French.

For the first time since the days of Professor Bôcher, advanced courses in French literature are being given by Professor Allard, Agrégé of the Collège de France, and a man of distinction.

Ten years ago, any young man was considered good enough to teach elementary French (your Committee protested against this at the time). Now there are ten good men so highly efficient that the Department is threatened with loss to what it would like to keep as a permanent body; for several of the best are receiving tempting offers from other colleges. To remedy this, some assurance of not too remote advancement should be given to efficient members of the staff, or the College will find itself keeping only the least effective ones.

The recent requirement in ability to read the language currently, by Junior year, has proved a wise one. It means something to work for, and more accessible courses. The results of the examinations have shown (almost 50% of those who presented themselves failed) how inadequate is the average student's knowledge of French.

The present period is one of transition, with desirable changes under way. Progress is slow; but with the able and devoted Professors at the head, and a well-trained staff under them; with MM. Allard, Raiche, and Mercier attached to the Department, the coming years promise better results. The instruction is taken seriously and with interest by young men desiring to profit by their opportunities; and the conditions of years ago which some of us recall, making it possible to enter the recitation room with text-books uncut, would be very unusual and surprising today.

Your Committee is of opinion that, to the end of making French a living language, there has been a wise beginning; but the end can never be achieved until the knowledge is made real by practice; until the divisions are reduced in size; or while the proportion of English-speaking to French-speaking instructors remains as six to one.

Respectfully submitted,

J. T. COOLIDGE, Jr., *Chairman.*
GORDON ABBOTT.
PAUL REVERE FROTHINGHAM.
FRANCIS McLENNAN.
THOMAS RUSSELL SULLIVAN.

June 20, 1912.

No. 36

REPORT OF THE COMMITTEE ON UNIVERSITY EXTENSION

To the Board of Overseers of Harvard College: —

The Overseers' Committee on University Extension respectfully reports: —

As University Extension, including the Summer School of Arts and Sciences and the School for Social Workers, is only in the second year of its present organization, a very brief report is presented.

Summer courses have been offered since 1871. In 1911 some twenty-five courses were offered during a session of six weeks. Most of these are accepted as half-courses towards the degrees of A. B. and S. B. In 1911 there were seven hundred and four (704) students in the Summer School of Arts and Sciences.

University Extension courses are given under a Commission representative of eight colleges and educational institutions near Boston. The courses include the Lowell Collegiate Courses and those of the Teachers' School of Science. They are of full collegiate grade and are offered to young men and women who are unable to be in residence in the College.

The School for Social Workers, for the study of Social Service in its various forms, maintained by the University and Simmons College, began its work in 1904 with 26 students; this year there are 66 students. With the aid of the Russell Sage Foundation, an advanced year and several special courses in Organized Charity, Probation, and Medical Social Service will be added. A Social Service library will also be maintained.

By University Extension Harvard University is serving the community in a larger and more practical way each year and instructing young men and women of ability and enthusiasm who are unable to undertake the full courses for degrees.

For the Committee,

WILLIAM LAWRENCE, *Chairman.*

June 20, 1912.

No. 37

REPORT OF THE COMMITTEE ON PHYSICAL TRAINING AND ATHLETIC SPORTS

To the Board of Overseers of Harvard College: —

The Committee on Physical Training and Athletic Sports respectfully reports as follows: —

Mr. Robert F. Clark, one of the members of the Committee, died during the year, and the vacancy caused by his death was filled by the appointment of Mr. Evert Jansen Wendell. The Committee has held two meetings pursuant to notice during the year — on February 28th and on April 10th, 1912. At these meetings the Committee discussed informally such matters as the report upon Athletics in the Naval Service, made by Surgeon General Charles F. Stokes, in which the Surgeon General expressed the opinion that competitive and spectacular athletics are undesirable in the Service; that a prolonged rigorous course of physical exercises necessary to excellence in physical sports is dangerous in its after effects upon those who indulge in athletic sports sufficiently to excel therein; that football is questionable as a sport, and that long-distance crew or foot racing is productive of serious harm.

The Committee discussed informally the advisability of making exercise by undergraduates compulsory and of instituting courses in Physical Culture, Hygiene, and Exercise to count towards a degree. The Committee also discussed informally the conduct of players and spectators at intercollegiate contests, and particularly at baseball games.

No formal action was taken or recommendations made by the Committee as to any of these matters.

LAWRENCE E. SEXTON, *Chairman.*

June 20, 1912.

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